

## **CLAIMS**

1-3 (Cancelled)

4. (Previously Presented) An apparatus for removing oil in an ammonia refrigeration system, comprising:
  - a) a vessel structured and arranged to receive ammonia and any oil circulating in the system;
  - b) a sump located in a bottom of the vessel;
  - c) the sump having an outlet, with the outlet having a valve;
  - d) a thermal conductivity sensor located in the sump and above the outlet, the sensor connected to and controlling the valve.
5. (Previously Presented) The apparatus of claim 4 wherein the outlet is connected to a compressor crankcase.
6. (Previously Presented) The apparatus of claim 5 wherein the outlet is connected to a compressor crankcase by way of an intermediate vessel.
7. (Previously Presented) The apparatus of claim 4 wherein the thermal conductivity sensor is located a distance above the outlet so that an oil-ammonia interface in the sump can move above and below the sensor.

8. (Previously Presented) A method of removing oil in an ammonia refrigeration system, comprising the steps of:
- a) trapping the oil in a sump;
  - b) at a location in the sump, sensing the thermal conductivity of fluid within the sump;
  - c) if the thermal conductivity is low, a high level of oil in the sump is indicated, and an outlet in the sump is opened to remove oil from the sump;
  - d) if the thermal conductivity is high, a low level of oil in the sump is indicated, and the sump outlet is closed.
9. (Previously Presented) The method of claim 8 wherein the step of sensing the thermal conductivity of fluid within the sump occurs continuously so that after the outlet is opened, the outlet is then closed when the level of oil drops in the sump.